A **DR NOOR AINI HJ SA'ARI v. SA-ART SAE LEE & ANOR**

COURT OF APPEAL, PUTRAJAYA
ZAHARAH IBRAHIM JCA
ABDUL AZIZ ABDUL RAHIM JCA
ROHANA YUSUF JCA
B [CIVIL APPEAL NO: J-02-2021-09-2013]
10 DECEMBER 2015

TORT: *Negligence – Medical negligence – High risk pregnancy – Monochorionic pregnancy – Condition where twins share common placenta – Twin-to-twin transfusion syndrome – Obstetrician and gynaecologist opted for conservative management approach in light of patient's situation – One twin died while surviving twin subsequently diagnosed with cerebral palsy – Whether there was breach of duty of care – Whether medical negligence established – Whether there was causal link that negligence by medical practitioner caused cerebral palsy to surviving twin*

The first respondent was pregnant with monochorionic pregnancy, a condition where twins share the same placenta. Monochorionic pregnancy was high risk and faced a possibility of, *inter alia*, twin-to-twin transfusion syndrome ('TTTS'). The first respondent was periodically managed by the appellant who was an obstetrician and gynaecologist. During an antenatal visit, the appellant noted that one of the twins was smaller than the other. The appellant explained about the condition and its risk to the first respondent and her husband. In a follow-up check up, the first respondent was found to have suffered from high blood pressure or pregnancy-induced hypertension. Upon admission, she was treated and was clinically diagnosed with TTTS. Three days later, the younger of the twins died and on the same day, a caesarean section was carried out. The surviving twin ('the second respondent') was delivered pre-term after 37 weeks of gestation. The appellant took the conservative management approach in dealing with the first respondent's circumstance. At the age of 1 1/2 years old, the second respondent was diagnosed as suffering from cerebral palsy ('CP'). The respondent claimed against the appellant at the High Court for medical negligence. In allowing the respondent's claim, the Judicial Commissioner ('the JC') held that the appellant was negligent and had breached the duty of care expected of her as a medical practitioner. Hence, the present appeal. The appellant submitted, *inter alia*, that the respondent (i) had failed to establish that the appellant was negligent; and (ii) had failed to prove the causal link that the appellant's alleged negligence was the cause of the second respondent's condition.

Held (allowing appeal)
Per Rohana Yusuf JCA delivering the judgment of the court:

(1) The principle in *Bolam v. Frier Management Committee* ('*Bolam* test') stipulated that a doctor is not guilty of negligence if he had acted within the practice accepted as proper, by a body of his own peers posing similar skill and competence. It is good enough that he/she had acted in accordance with one of the bodies of opinion. It does not matter if there is another body with differing view that does not accept the action by him as proper. This is the standard of care expected of a medical practitioner. (para 8)

(2) Conservative management remained the only viable option for TTTS and this was the approach taken by the appellant in this case. The appellant monitored the foetuses and tried to time the delivery of both twins. The materno-fetal medicine ('MFM') specialist testified that he would not have done any different to what the appellant did. The respondents' expert witness accepted that the MFM specialist would be the right person to know what to do in cases of twin pregnancy complicated by TTTS. Applying the *Bolam* test, the approach taken by the appellant was acceptable and she was therefore not guilty of negligence in adopting the conservative management. (paras 13 & 14)

(3) The JC held that the risk to the second respondent was aggravated by the in-utero fetal demise of the co-twin, which led to the TTTS between the second respondent and the demised twin. According to the JC, this in turn in all probabilities, had an adverse effect on the second respondent, causing the eventual neurological damage in-utero. The end result was that the second respondent now suffered neurological impairment and disabilities, specifically CP and quadriplegia. This finding by the JC was without any evidential basis. There was no evidence adduced as to the probable cause of the CP by any of the experts. (paras 22 & 23)

***Bahasa Malaysia** Headnotes*

Responden pertama hamil dengan kandungan monokorionik, satu keadaan apabila kembar berkongsi uri. Kandungan monokorionik berisiko tinggi dan mempunyai kemungkinan, antara lain, sindrom transfusi kembar-ke-kembar ('TTTS'). Responden pertama dirawat dari semasa ke semasa oleh perayu, seorang pakar sakit puan dan obstetrik. Semasa pemeriksaan sebelum bersalin, perayu mendapati salah satu kembar lebih kecil daripada yang satu lagi. Perayu menerangkan keadaan ini dan risikonya kepada responden pertama dan suaminya. Semasa pemeriksaan susulan, responden pertama didapati menghidap tekanan darah tinggi atau hipertensi yang disebabkan oleh kehamilan. Apabila diwadkan, dia dirawat dan didiagnosis secara klinikal menghidap TTTS. Tiga hari kemudian, kembar yang lebih muda meninggal dunia dan pada hari yang sama, pembedahan caesarean dijalankan.

A Kembar yang hidup ('responden kedua') dilahirkan pra-matang selepas kehamilan minggu ke-37. Perayu mengambil langkah konservatif dalam menangani hal keadaan responden pertama. Responden kedua didiagnosis menghidap palsi serebrum ('PS') semasa berumur 1 1/2 tahun. Responden menuntut terhadap perayu di Mahkamah Tinggi bagi kecuaian perubatan.
B Dalam membenarkan tuntutan responden, Pesuruhjaya Kehakiman ('PK') memutuskan bahawa perayu cuai dan melanggar kewajipan berhati-hati yang dijangka daripadanya sebagai pengamal perubatan. Oleh itu, rayuan ini. Perayu menghujahkan, antara lain, bahawa responden telah (i) gagal membuktikan perayu cuai; dan (ii) gagal membuktikan hubungan kausa
C bahawa kecuaian perayu yang didakwakan itu adalah penyebab keadaan responden kedua.

Diputuskan (membenarkan rayuan)
Rohana Yusuf HMR menyampaikan penghakiman mahkamah:

D **(1)** Prinsip dalam *Bolam v. Frier Management Committee* ('ujian *Bolam*') menyatakan bahawa seorang doktor tidak bersalah atas kecuaian sekiranya dia bertindak selaras dengan amalan yang diterima sebagai teratur, oleh satu badan yang terdiri daripada golongan sama dengannya dan mempunyai kemahiran dan kecekapan serupa. Cukup bahawa dia bertindak selaras dengan pendapat salah satu badan tersebut. Tidak
E penting sekiranya wujud badan lain berpendapat berbeza yang tidak menerima tindakannya sebagai teratur. Ini kewajipan berhati-hati standard yang dijangka daripada seorang pengamal perubatan.

(2) Pengurusan konservatif kekal sebagai pilihan berdaya hidup bagi TTTS dan pendekatan ini diambil oleh perayu. Perayu mengawasi kedua-dua
F janin dan cuba menganggar masa kelahiran kedua-dua kembar. Pakar materno-fetal ('MFM') memberi keterangan bahawa dia akan melakukan serupa dengan apa yang telah dilakukan oleh perayu. Saksi pakar responden bersetuju bahawa pakar MFM orang yang arif dalam memutuskan langkah yang wajar diambil dalam kes kehamilan kembar
G yang dirumitkan oleh TTTS. Mengguna pakai ujian *Bolam*, pendekatan perayu diterima dan dengan itu, dia tidak cuai dalam memilih pengurusan konservatif.

(3) PK memutuskan bahawa risiko terhadap responden kedua diberatkan lagi dengan kematian in-utero fetal seorang lagi kembar, yang
H menyebabkan TTTS antara responden kedua dan kembar yang meninggal dunia. Menurut PK, dalam semua kemungkinan, ini mempunyai kesan buruk pada responden kedua, yang akhirnya menyebabkan kerosakan neurologi in-utero. Akibatnya, responden kedua kini mengalami kerosakan neurologi dan kecacatan, khususnya
I palsi serebrum dan kuadriplegia. Dapatan PK tentang isu ini tidak disokong bukti yang berasas. Tiada keterangan dikemukakan tentang sebab terjadinya PS oleh mana-mana saksi pakar.

Case(s) referred to:

Bolam v. Friern Hospital Management Committee [1957] 2 All ER 118 ***(refd)***

Bolitho v. City and Hackney Health Authority [1997] 3 WLR 1151 ***(refd)***

Dr Soo Fook Mun v. Foo Fio Na & Anor and Another Appeal [2001] 2 CLJ 457 CA ***(refd)***

Gleneagles Hospital (KL) Sdn Bhd v. Chung Chu Yin & Ors And Another Appeal [2013] 8 CLJ 449 CA ***(refd)***

Tomlin v. Tomlin [1980] 1 All ER 596 ***(refd)***

Yomeishu Seizo Co Ltd & Ors v. Sinma Medical Products (M) Sdn Bhd [1996] 2 BLJ 142 HC ***(refd)***

Legislation referred to:

Penal Code, s. 312

For the appellant - Darryl Goon Siew Chye (Raja Eileen Soraya Raja Aman and Nicol Ong with him); M/s Raja, Darryl & Loh

For the respondent - Saufee Apandi (Jagatheeson Namasivayam & R Jayadda with him); M/s Jega & Co

[Editor's note: For the High Court judgment, please see Sa-Art Sae Lee & Anor v. Dr Noor Aini Haji Sa'ari & Anor [2014] 1 LNS 97 (overruled).]

Reported by Najib Tamby

JUDGMENT

Rohana Yusuf JCA:

[1] The appellant, Dr Noor Aini binti Haji Sa'ari, is appealing against the decision of the High Court at Johor Bahru given on 22 August 2013, which found her liable for a claim in medical negligence. We have, by a unanimous decision, allowed her appeal on 15 September 2014 and consequently dismissed the respondents' cross appeal on the quantum of damages.

Brief Facts

[2] Sa-Art Sae-Lee (first respondent) was pregnant with monochorionic pregnancy (a condition where twins share the same placenta). It is an accepted fact that a monochorionic pregnancy is high risk and faces a possibility, amongst others, of Twin-to-Twin Transfusion Syndrome (TTTS). The first respondent was periodically managed by the appellant who was practising as an obstetrician and gynaecologist at the Puteri Specialist Hospital, Johor Bahru.

[3] During an antenatal visit on 3 November 2002, the appellant noted that one of the twins was smaller than the other. There was a discussion on the first respondent's condition and explanation was accordingly given on the first respondent and her husband on the associated risk of twin pregnancy. In a follow-up check on 17 November 2002, the first respondent was found

to have suffered from high blood pressure or pregnancy induced hypertension (PIH), and was admitted into the hospital. Upon admission she was treated for PIH and was clinically diagnosed with Twin-to-Twin Transfusion Syndromes (TTTS). Three days later on 20 November 2002, the first respondent was told that the younger of the twins had died. On the same day a caesarean section was done. Both the second respondent and the dead twin were delivered. The second respondent was delivered pre-term after 37 weeks of gestation. Due to financial constraints, the second respondent was then transferred to Hospital Sultanah Aminah for further management on 22 November 2002. Subsequently, on 31 May 2004 at the age of 1 1/2 years old, the second respondent was diagnosed as suffering from cerebral palsy (CP).

[4] The respondents brought a claim for negligence against the appellant and the Medical Centre (Johor) Sdn Bhd, which manages the Puteri Specialist Hospital. The claim against the hospital was however withdrawn before the trial commenced.

Findings Of The High Court

[5] The learned Judicial Commissioner (JC) allowed the claim by the respondents as he found that the appellant had, on the balance of probabilities, failed to exercise the standard of care that she owed to the respondents. In essence the learned JC concluded in para. 63 of his grounds of judgment that the following facts figure prominently in the determination of the central question as to whether the appellant had been negligent in the management of the first respondent's pregnancy.

(i) The likely causes of the neurological damage and impairment suffered by the infant were, apart from prematurity, TTTS and demise of the co-twin, both of which were not detected early and dealt with appropriately and adequately;

(ii) There was no reference to a tertiary level medical centre despite the high risks of fetal compromise that became apparent from the severe weight discrepancy between the twins that reflected IUGR;

(iii) There were discrepancies in the gestational age as determined by dates and ultrasound which were resolved only at a very late stage just before birth;

(iv) Chorionicity and amnionicity were not determined early that could have prompted an early detection and diagnosis of TTTS for remedial measures to be taken. Amniotic fluid (liquor) volume was not documented. A proper documentation would have triggered a diagnosis of TTTS;

(v) The weight of evidence pointed to the demise of the co-twin several days before delivery, which was not detected early by DW2 due failure to carry out the appropriate tests; and

(vi) Available options to overcome the risk of neurological damage to Cleo brought about by the monochorionic twin pregnancy ("MTP") and complicated by TTTS were not seriously considered or carried out. For instance, a procedure called septostomy was available at the material time.

[6] Premised on all the facts and opinions expressed pertaining to the above issues, the learned JC concluded that in managing the high risk pregnancy, and the complications that followed giving rise to the serious risks to the surviving infant, the appellant, on a balance of probabilities, had failed to exercise the standard of care to be observed by her as a person professing to have that special skill or competence. The learned JC thereby found the appellant had breached the duty of care. According to the learned JC had she exercised the degree of care as required, the damage and disabilities suffered by the second respondent could in all likelihood have been averted. In those circumstances the learned JC held that the appellant's negligence had materially contributed to the impairment and disabilities suffered by the second respondent, and found her liable for negligence as pleaded.

The Appeal

[7] The main issue raised by the appellant in this appeal is that the findings of the learned JC that the appellant was negligent and that the same was the cause of the second respondent's suffering the CP were made without evidential support. It was the contention of learned counsel for the appellant that the respondent had failed to establish that the appellant was negligent. Further the appellant contended the respondent had failed to prove the causal link, that is, the appellant's negligence was the cause of the second respondent's condition. It was also contended by learned counsel for the appellant that the learned JC had failed to appreciate the evidence of the witnesses produced by the appellant but instead relied excessively on the evidence of the witnesses of the respondents, which led the learned JC to the conclusions and findings against the weight of evidence.

[8] Before we delve into the issues raised by the appellant, in determining whether or not the appellant had been negligent in her care and management of the respondents, we wish to state that the test as expounded in *Bolam v. Friern Hospital Management Committee* [1957] 2 All ER 118 applies. The test laid down in *Bolam* is that a doctor is not guilty of negligence if he had acted within the practice accepted as proper, by a body of his own peers posing similar skill and competence. It is good enough that he had acted in accordance with one of the bodies of opinion. It does not matter if there is another body with differing view that does not accept the action by him as proper. This is the standard of care expected of a medical practitioner. Indeed, the *Bolam* test has on a number of occasions been applied by this court to determine such standard of care as in the case of *Gleneagles Hospital (KL) Sdn Bhd v. Chung Chu Yin & Ors And Another Appeal* [2013] 8 CLJ 449. The Federal Court had affirmed that decision.

[9] We will first deal with the issue of whether the appellant was negligent in taking the conservative management approach in dealing with the first respondents in the circumstances. In evidence we note that there appears to be no viable medical treatment option for TTTS at the material time. There were three experts testifying on this issue. They were Dato' Dr Ravindran Jegasothy, an Expert Paediatrician Neurologist (DW7), Associate Professor Mahesh Choolani, an Expert Obstetrician and Gynaecologist (PW8) and Dr Raman Subramaniam, an Expert Obstetrician and Gynaecologist (MLM expert) (DW3).

[10] PW8 suggested that the possible options of treating TTTS are Conservative treatment, Serial Amnioreduction and Septostomy, Laser (ablation), termination. To these, PW7 added an Umbilical Cord Occlusion as another treatment.

[11] Out of these procedures and treatment, both the Laser (ablation) and the Umbilical Cord Occlusion were not available at the time in question. Termination on the other hand is something a patient may choose to have rather than being offered as a treatment option according to PW8. PW8 admitted that termination would not be actively offered as a treatment option. According to PW7, with TTTS there is a 20% chance of CP and a 70% chance that there would be no CP. PW7 admitted that he had never recommended termination to his patients based on those chances. In Malaysia however s. 312 of the Penal Code makes termination of a pregnancy illegal. Termination was thus not an option and cannot possibly be regarded as a treatment option for CP. For the same reason, Umbilical Cord Occlusion cannot be an option even if it was available then because it involves termination of pregnancy.

[12] Serial Amnioreduction and Septostomy is not an appropriate mode in this case because, according to PW8, these options are only offered if there is too much water (liquor or amniotic fluid) in one sac (severe polyhydramnios). This is because the objective of this procedure is to decrease the amount of amniotic fluid in the sac and Septostomy where it involves cutting the membrane between the two sacs to create equilibrium in order to allow the amniotic fluid to flow freely. The primary objective is to remove excessive amniotic fluid in the sacs. Whereas during delivery on 20 November 2002 the operation notes showed that there was scanty amniotic fluid (liquor) in one sac and none in the other. This critical evidence makes it clear that Serial Amnioreduction and Septostomy were not appropriate procedures for the first respondent. As there was clearly no severe polyhydramnios in this case both these options were not viable at all. This was agreed to by PW8. PW8 further said that both these procedures are not without risks. Amongst others, the common risks are infection, ruptured membrane, water leaking out, and miscarriage. Another critical fact stated by PW8 was that even if the procedures were carried out it is not foolproof that CP would not occur.

[13] Conservative management therefore, remains the only viable option for TTTS and this was the approach taken by the appellant in this case. She monitored the foetuses and tried to time the delivery of both twins. The only Materno-fetal Medicine (MFM) specialist during the trial was DW3. He testified that he would not have done any different to what the appellant did. The respondents' expert, PW7 accepted that DW3, who is also a MFM specialist, would be the right person to know what to do in cases of twin pregnancy complicated by TTTS.

[14] As we have alluded to earlier, the test laid down in *Bolam* is that a doctor is not guilty of negligence if he had acted within the practice accepted as proper, by a body of his own peers posing similar skill and competence. Applying *Bolam* test, in our view the approach taken by the appellant is acceptable and she is therefore not guilty of negligence, in adopting the conservative management.

[15] In the management of the respondents, the learned JC found that the appellant was negligent in failing to detect the demise of the co-twin earlier. His finding was that the demise of the co-twin took place several days before delivery. Learned JC relied on the notes of the appellant made on 18 November 2002, which stated that only one heart rate was heard. The appellant was not cross-examined on her notes, as this issue was not raised during the trial. In our view this finding of the learned JC goes against the weight of evidence when there were two CTG tracing that showed otherwise. One CTG tracing done on 17 November 2002 and another on 18 November 2002 both showed that both the fetal hearts were normal. The court had ignored these two CTG findings to conclude that the co-twin had died on 17 November 2012. In fact on the night of 19 November 2002, the first respondent's husband was told that one fetal heart was weak. This clearly means that the heartbeats of both foetuses were heard. For this reason we agree with the submission of learned appellant's counsel that the entry "FHR (L side)" in the progress note of the appellant, which was relied upon, would have been because a hand-held device called a Doptone (a Doppler fetal heart monitor) was used to listen to the fetal hearts and this was placed on the left side of the mother's abdomen. This could have resulted in only one heart beat being heard.

[16] Another piece of evidence that had surfaced in relation to the time of death of the co-twin was that, at the time it was delivered the body was found to be macerated. Dr. Malinee Thambayayah (PW6), who is an expert Paediatrician Neurologist opined that a macerated baby delivered at 12.57pm on 20 November 2002 would indicate that the co-twin would have died for at least 12 hours earlier. Working back 12 hours from 9.30am on 20 November 2002 (when the ultrasound and CTG found that there was no heart beat for the second twin) the death of the co-twin could have occurred at around 9.30pm the night before (ie, 19 November 2002). This opinion is

A inconsistent with the fact that the husband was told on the night of 19 November 2002 that one fetal heart was weak. The two CTGs done on 17 November 2002 and 18 November 2002 demonstrated clearly the both twins were still alive then. The co-twin's death was discovered around noon on 20 November 2002 and an emergency caesarean section was carried out. B The death of the co-twin was confirmed only by ultrasound and CTG on the morning of 20 November 2002 and that an emergency caesarean section was soon done to deliver both the live and demised twin. Thus there was no delay by the appellant in her treatment of the respondents. Besides, there was no allegation that an emergency caesarean section was not appropriate.

C **[17]** It was the submission of learned counsel for the appellant that the learned judge had also fallen into error in his findings that the likely causes of the neurological damages and impairment suffered by the infant were, apart from prematurity, TTTS and demise of co-twin, both of which were not detected early and dealt with appropriately and adequately. We agree D with learned counsel for the appellant on this point: that there was no delay in the detection of TTTS by the appellant. TTTS was detected on 7 November 2002 and the co-twin was found dead on 20 November 2002. The appellant monitored and managed the first respondent conservatively by monitoring the foetuses and timing their delivery.

E **[18]** Even if TTTS was detected much earlier there was clearly no viable alternative treatment option for TTTS in the year 2002. The appellant's conservative management was the best option for TTTS, which was agreed to by the only expert in MFM, DW3. PW7 had also admitted that it is the MFM specialist who would know how to deal with the situation "because F that specialist would probably know better than the general specialist, whether anything can be offered for TTTS".

[19] We further agree with learned counsel for the appellant that a referral to a tertiary level medical centre would not have changed the outcome in this case in relation to the second respondent's CP. This was clearly established G through the MLM specialist DW3. In his evidence DW3 had stated that he would not have managed this case differently and that a referral to a tertiary level would not make a difference.

[20] Whilst dealing with the expert evidence of DW3 we note that the learned JC had some reservation on the evidence of DW3 as stated in his H grounds of judgment of para. 42. The learned JC however did caution himself that he did not reject the evidence of DW3 in total on the grounds raised by the respondent, such that he had prepared his own witness statement and drafted the question himself, that he was present throughout the proceedings and had assisted in the questioning of the expert witnesses. We agree with I the learned JC that these reasons do not form the basis for rejecting expert opinion. Experts need not leave the courtroom during trial as decided in

Tomlin v. Tomlin [1980] 1 All ER 596 and followed in the Malaysian cases of *Yomeishu Seizo Co Ltd & 2 Ors v. Sinma Medical Products (M) Sdn Bhd* [1996] 2 BLJ 142; [1996] 2 MLJ 334, *Dr Soo Soo Fook Mun v. Foo Fio Na & Anor and Another Appeal* [2001] 2 CLJ 457; [2001] 2 MLJ 193. DW3 in fact admitted drafting his own witness statement, which in our view is not improper since he is giving expert opinion and his opinion was not free from cross-examination.

[21] DW3 was also criticised for changing his opinion when in fact he did not disagree with the appellant's diagnosis that TTTS was the cause of the demise of the co-twin. However, disagreeing in his view does not make him agree with the view that TTTS was the cause of the demise of the co-twin. DW3 was also criticised for making the statement that PW8 had opined that there was no evidence of excessive amniotic fluid (polyhydramnios). In fact PW8 in relation to this cross-examination agreed that there was no severe polyhydramnios, and hence the treatment options for Amnioreduction and Septostomy could not be offered. Therefore the JC's observation on the lack of independence of DW3 as an expert was in our view, not warranted.

Causation

[22] The learned JC held that the risk to the surviving twin, the second respondent, was aggravated by the in-utero fetal demise of the co-twin, which led to the TTTS between the surviving twin and the demised twin. According to the learned JC this in turn in all probabilities, had an adverse effect on the surviving twin causing the eventual neurological damage in-utero. The end result is that the second respondent now suffers neurological impairment and disabilities, specifically cerebral palsy and quadriplegia. We agree with learned counsel for the appellant that this finding by the learned JC is without any evidential basis.

[23] Perusing through the appeal records, we found no evidence adduced as to the probable cause of the CP by any of the experts. We had closely examined the evidence of the expert witnesses on this issue. At the trial the three experts who gave opinions on the causes of CP in this case were Dr Malinee Thambayayah, Paediatrician Neurologist (PW6), Dr Ravindran, an Obstetrician and Gynaecologist (PW7) and Dr Hussain Imam, the Paediatrician Neurologist (DW1).

[24] Medical Science is not certain as to the cause of CP in a monochorionic twin pregnancy though there were several theories discussed at the trial. The expert called by the respondents, PW6, could not give a probable cause of the CP in this case.

[25] PW6 had opined that prematurity is one possible cause of Hypoxic-Ischaemic injury (HIE). She also opined that the probable cause of CP is "very complex" and that there are "multiple factors that could have caused this cerebral palsy". The multiple factors were accordingly a long list of

factors. Her evidence was that having interviewed and taking the history, and having gone through the report, the twin pregnancy itself and the type of twin pregnancy, monochorionic complicated by TTTS are the possible reasons. In this case the first respondent also suffered from eclampsia as well as high blood pressure, and all these were causing the ischemia, that is, reduced blood flow to one twin. Therefore the risk of one baby's brain being injured or the brain of both foetuses being injured would be higher. She further testified that whether ischemia may have occurred during that time, or just before delivery, would not be known because it would be hard to tell. She further said that the other possibility could also be because the second respondent was a pre-term infant, thus whether the infant had hypoglycaemia during resuscitation in the first few hours of life could explain the ulegyria. These are some of the factors that may have caused the CP as explained by her. What is most telling about PW6's testimony is that she admitted that she did not know the cause of the CP in this case and that it was "hard to tell" because there are "a number of factors" in this case that could have contributed to the cause of the CP. Quite simply put, PW6 could not positively confirm the probable cause of the CP suffered by the second respondent.

[26] PW7 testified that there is always a high risk of CP in the surviving twin when a co-twin dies. The cause of CP in this case could also be due to an antepartum factor. A postpartum factor such as injury or insult during the transfer to Hospital Sultanah Aminah could not conclusively be excluded, as details of this transfer were not available. It should however be borne in mind that PW7 practises as an O&G and not as a paediatric neurologist. In fact, PW7 himself admitted that he is not an MFM specialist, not an expert on twins.

[27] PW8 is an O&G practising in Singapore. PW8 declined to give an opinion on the causation of the CP, as he does not practise as a neonatologist or paediatric neurologist. PW8 admitted that, it is more appropriate for the paediatric neurologists to explain CP and its causes.

[28] Aside from PW6 who did not give a conclusive opinion as to the probable cause of the CP, the only paediatric neurologist who testified during trial, was DW1. He was called by the appellant. DW1 is the Head of the Paediatric Institute at Hospital Kuala Lumpur and the Head of Paediatric Services in the Ministry of Health. He is the most Senior Paediatric Neurologist in the government service in the country and had trained PW6. In this case, DW1 opined that the CP was due to prematurity. He said the child was born between 28 to 30 weeks gestation, which is by itself a known risk factor for subsequent periventricular leukomalacia. In addition, this child suffered other complications of prematurity such as idiopathic respiratory distress syndrome and hypoglycaemia, which would have contributed to the brain damage.

[29] The learned JC noted DW1's opinion but dismissed his evidence for the reason that it was not supported by reported studies. We however agree with learned counsel for the appellant that DW1's evidence is in fact supported by medical literature, most notably from a chapter on Hypoxic-Ischaemic Encephalopathy in Neurology of the New-born (5th Ed. 2008) by Joseph J Volpe, in exh. D16. A closer scrutiny of DW1's evidence would also show that his opinion is both reasonable and rational. In the off-cited case of *Bolitho v. City and Hackney Health Authority* [1997] 3 WLR 1151, Lord Browne-Wilkinson had warned that "... it will very seldom be right for a judge to reach the conclusion that views genuinely held by a competent medical expert are unreasonable. The assessment of medical risks and benefits is a matter of clinical judgment which a judge would not normally be able to make without expert evidence." This *dictum* was cited by the learned JC at para. 11 of his grounds of judgment.

[30] In the final analysis none of the above experts in fact gave evidence that the probable cause of the CP was due to TTTS caused by the demise of the co-twin. Thus in our view the learned JC was in error when he found at para. 61 of his grounds of judgment that the risk to the surviving twin was aggravated by the in-utero fetal demise of the co-twin, which led to feto-fetal TTTS between the surviving twin and the demised twin. We agree with learned counsel for the appellant that the learned JC had fallen into error and failed to judicially appreciate the evidence of DW6 who stated that the likely cause of the CP suffered by the second respondent is the combination of the following: the monochorionic twin gestation complicated by TTTS from possibly 19 weeks gestation and the death of co-twin, resulting in acute feto-fetal transfusion.

[31] A careful scrutiny of PW6's evidence does not reflect the conclusion arrived at by the learned JC. In her expert report PW6 never mentioned that the death of co-twin led to acute "feto-fetal transfusion". And when questioned on the probable cause of the CP in this case, PW6 testified that it was very complex and there were lots of contributing factors. PW6 said the pregnancy was complicated by TTTS. Again, PW6 never suggested that the death of co-twin had led to acute "feto-fetal transfusion" as submitted by the respondents.

[32] Thus there was no evidential basis for a finding that the second respondent's "neurological damage in-utero" or the CP, was probably caused by "... the in-utero fetal demise of the co-twin which led to the feto-fetal TTTS between the surviving twin and the demised twin", as stated by the learned JC.

[33] Furthermore, it must be borne in mind that the probable cause of CP and the conditions leading to CP such as the twins were monochorionic, TTTS or the death of the co-twin which were not caused by the negligence of the appellant. These conditions were all natural causes and cannot be

attributed to alleged negligence on the part of the appellant. We therefore do not find causative link between the appellant's alleged negligence and the causes of the CP in this case.

[34] More importantly, even if the death of the co-twin was detected immediately and that caesarean section done immediately, it would have made no difference if the CP was indeed caused by a feto-fetal transfusion (as the High Court found). DW3 had also explained that if any damage to the living twin had occurred due to the death of the co-twin in a TTTS it would have been immediate. Thus no matter how early the caesarean section was done, it would not have prevented the brain damage, if that were the cause. We do not find DW3 being cross-examined on this point. As such, even if the CP were indeed caused by feto-fetal transfusion as the JC held, early detection would have made no difference. There is therefore nothing one can do to avoid the CP in the circumstances. Early detection of the death of the co-twin would make no difference, as there is no causal link between early detection and the CP.

[35] For all the above reasons we allowed the appeal of the appellant and we set aside the orders made by the High Court. Consequently, the cross-appeal by the respondent on the quantum of damages was dismissed. We made no order as to costs. We further made a consequential order that the monies paid together with interest pursuant to the order of the High Court be refunded, with no interest.